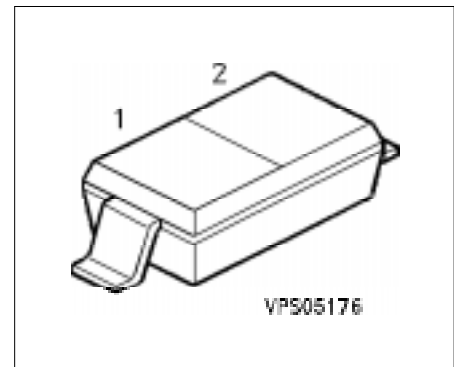


## Silicon Variable Capacitance Diode

**BB 639**

- For tuning of extended frequency bands in VHF TV/VTR tuners



Type	Ordering Code (tape and reel)	Pin Configuration			Marking	Package
		1		2		
BB 639	Q62702-B586	C		A	yellow S	SOD-323

### Maximum Ratings

Parameter	Symbol	Values	Unit
Reverse voltage	$V_R$	30	V
Reverse voltage ( $R \geq 5 \text{ k}\Omega$ )	$V_{RM}$	35	V
Forward current	$I_F$	20	mA
Operating temperature range	$T_{op}$	$-55 \dots +150$	$^{\circ}\text{C}$
Storage temperature range	$T_{stg}$	$-55 \dots +150$	$^{\circ}\text{C}$

### Thermal Resistance

Junction-ambient	$R_{thJA}$	$\leq 450$	K/W
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**Electrical Characteristics**

at  $T_A = 25\text{ °C}$ , unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 30\text{ V}$ $V_R = 30\text{ V}, T_A = 85\text{ °C}$	$I_R$	— —	— —	10 200	nA
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 28\text{ V}, f = 1\text{ MHz}$	$C_T$	36 2.4	38.3 2.6	42 2.9	pF
Capacitance ratio $V_R = 1\text{ V}, 28\text{ V}, f = 1\text{ MHz}$	$C_{T1}/C_{T28}$	13.5	14.7	—	—
Capacitance matching $V_R = 1\text{ V} \dots 28\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	—	—	2.5	%
Series resistance $C_T = 12\text{ pF}, f = 100\text{ MHz}$	$r_S$	—	0.65	—	$\Omega$
Series inductance	$L_S$	—	2	—	nH

**Diode capacitance  $C_T = f(V_R)$**

$f = 1 \text{ MHz}$

